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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/849,034	05/20/2004	N. Leigh Anderson	47103	7041
27860	7590	10/25/2007	EXAMINER	
LARGE SCALE BIOLOGY CORPORATION			VATHYAM, SUREKHA	
3333 VACA VALLEY PARKWAY			ART UNIT	
SUITE 1000			PAPER NUMBER	
VACAVILLE, CA 95688			1795	
MAIL DATE		DELIVERY MODE		
10/25/2007		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)
	10/849,034	ANDERSON ET AL.
	Examiner	Art Unit
	Surekha Vathyam	1795

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 20 May 2004.
 2a) This action is **FINAL**. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 60-78 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 60-78 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 20 May 2004 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
 3) Information Disclosure Statement(s) (PTO/SB/08)
 Paper No(s)/Mail Date 5/20/04.

4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date. _____.
 5) Notice of Informal Patent Application
 6) Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 60 and 62 – 64 are rejected under 35 U.S.C. 102(b) as being anticipated by Schwartz et al. (US 4,305,799).

Regarding claim 60, Schwartz ('799) discloses a method of unloading an isoelectric gel (18) from a gel tube (13), said method comprising positioning a flexible plunger member in a first end of the gel tube, said flexible plunger member sealing against an inner surface of a bore of the gel tube (see column 9, lines 9 – 12), and sliding said flexible plunger member through the bore toward a second end of the gel tube and unloading the gel from the gel tube (see column 9, lines 9 – 12).

Regarding claim 62, Schwartz ('799) discloses applying an axial force to said plunger member to slide the plunger member toward the second end of the tube (see column 9, lines 9 – 12).

Regarding claim 63, Schwartz ('799) discloses inserting a plunger rod into the first end of the bore to contact the plunger, and applying axial force to the plunger rod to slide the plunger member toward the second end of the tube and unload the gel (see column 9, lines 9 – 12).

Regarding claim 64, Schwartz ('799) discloses inserting a plunger rod into the first end of the bore to contact the plunger, and manually forcing the plunger rod in an axial direction through the bore toward the second end of the tube and unload the gel (see column 9, lines 9 – 12).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 60 – 78 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schwartz et al. (US 4,305,799) in view of Wieder (US 3,877,430).

Regarding claims 60 and 61, Schwartz ('799) discloses a method of unloading an isoelectric gel (18) from a gel tube (13), said method comprising positioning a flexible plunger member in a first end of the gel tube, said flexible plunger member sealing against an inner surface of a bore of the gel tube (see column 9, lines 9 – 12), and sliding said flexible plunger member through the bore toward a second end of the gel tube and unloading the gel from the gel tube (see column 9, lines 9 – 12).

Schwartz ('799) does not disclose a flexible rubber ball.

Wieder ('430) teaches a method of discharging material from a tube (20) by sliding a flexible rubber ball (21) through the tube (see column 4, lines 27 – 68).

It would have been obvious to one of ordinary skill in the art to have modified the method of Schwartz ('799) by utilizing a rubber ball as the plunger, in accordance with the teachings of Wieder ('430) because, as explained in column 2, line 65 to column 3, line 24, leakage and damage are prevented.

Regarding claim 62, both references teach applying an axial force to said plunger member to slide the plunger member toward the second end of the tube (see column 9,

lines 9 – 12 of Schwartz ('799) and Figs. 5 – 7 and column 5, line 62 to column 6, line 10 of Wieder ('430)).

Regarding claim 63, both references teach inserting a plunger rod into the first end of the bore to contact the plunger, and applying axial force to the plunger rod to slide the plunger member toward the second end of the tube (see column 9, lines 9 – 12 of Schwartz ('799) and Figs. 5 – 7 and column 5, line 62 to column 6, line 10 of Wieder ('430)).

Regarding claim 64, both references teach inserting a plunger rod into the first end of the bore to contact the flexible plunger member and manually forcing the plunger rod in an axial direction through the bore toward the second end of the tube (see column 9, lines 9 – 12 of Schwartz ('799) and Figs. 5 – 7 and column 5, line 62 to column 6, line 10 of Wieder ('430)).

Regarding claim 65, Wieder ('430) further teaches coupling the first end of the tube in an axial passage of a housing (32), the housing being oriented for guiding the plunger rod through the tube (see Figs. 5 – 7).

Regarding claim 66, the housing includes a stop member (38) in the axial passage and Wieder ('430) teaches abutting the first end of the tube against the stop member (see Figs. 5 – 7).

Regarding claim 67, Schwartz ('799) discloses a method of unloading an electrophoresis gel (18) from a gel tube (13), said gel tube having a substantially cylindrical shape defining a bore having a first open end and a second open end and

containing the electrophoresis gel therein (see column 4, lines 15 – 17), said method comprising positioning a flexible member in a first end of the bore of the gel tube, the flexible member having a dimension to slide within the bore of the tube, and applying axial force the member sufficient to move the flexible member to the second end of the tube and unload the gel form the tube through the second end (see column 9, lines 9 – 12).

Schwartz ('799) does not disclose a flexible spherical member.

Wieder ('430) teaches a method of discharging material from a tube (20) by sliding a flexible rubber sphere (21) through the tube (see column 4, lines 27 – 68).

It would have been obvious to one of ordinary skill in the art to have modified the method of Schwartz ('799) by utilizing a rubber sphere as the plunger, in accordance with the teachings of Wieder ('430) because, as explained in column 2, line 65 to column 3 line 24, leakage and damage are prevented.

Regarding claim 68, the spherical member has a dimension to contact an inner surface of the tube (see column 5, lines 11 – 30 of Wieder ('430)).

Regarding claim 69, the spherical member is a silicone rubber ball (see column 4, lines 61 – 68 of Wieder ('430)).

Regarding claim 70, both references teach inserting a plunger rod into the first end of the bore to contact the member, and applying axial force to the plunger rod to slide the member toward the second end of the tube (see column 9, lines 9 – 12 of Schwartz ('799) and Figs. 5 – 7 and column 5, line 62 to column 6, line 10 of Wieder ('430)).

Regarding claim 71, both references teach applying the axial force manually (see column 9, lines 9 – 12 of Schwartz ('799) and Figs. 5 – 7 and column 5, line 62 to column 6, line 10 of Wieder ('430)).

Regarding claim 72, Wieder ('430) further teaches coupling the first end of the tube to a housing (32), the housing having an axial passage for guiding the plunger rod (see Figs. 5 – 7).

Regarding claim 73, the housing has a stop member (38) in the axial passage and Wieder ('430) teaches abutting the first end of the tube against the stop member (see Figs. 5 – 7).

Regarding claim 74, Schwartz ('799) discloses a method of unloading an electrophoresis gel (18) from a gel tube (13), said gel tube having a substantially tubular shape with an internal bore with a first open end and a second open end and containing the electrophoresis gel therein (see column 4, lines 15 – 17), said method comprising placing a flexible and resilient member in said first end of the bore, the member having an outer dimension to contact an inner surface of the bore; inserting a rod into the first end of the bore to contact the member; and moving the rod through the bore from said first end to the second end to unload the gel (see column 9, lines 9 – 12).

Schwartz ('799) does not disclose a flexible and resilient ball.

Wieder ('430) teaches a method of discharging material from a tube (20) by sliding a flexible and resilient ball (21) through the tube (see column 4 lines 27 to column 5 line 11).

It would have been obvious to one of ordinary skill in the art to have modified the method of Schwartz ('799) by utilizing a flexible and resilient ball as the member, in accordance with the teachings of Wieder ('430) because, as explained in column 2, line 65 to column 3 line 24, leakage and damage are prevented.

Regarding claim 75, both references teach manually applying axial force to the rod to move said rod through the bore (see column 9, lines 9 – 12 of Schwartz ('799) and Figs. 5 – 7 and column 5, line 62 to column 6, line 10 of Wieder ('430)).

Regarding claim 76, Wieder ('430) further teaches coupling the first end of the tube to a housing (32), the housing having an axial passage for guiding the rod (see Figs. 5 – 7).

Regarding claim 77, the housing has a stop member (38) in the axial passage and Wieder ('430) teaches abutting the first end of the tube against the stop member (see Figs. 5 – 7).

Regarding claim 78, the flexible and resilient ball has a dimension to form a seal against the inner surface of the bore (see column 5, lines 11 – 30 of Wieder ('430)).

Double Patenting

7. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140

F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

8. Claims 60 – 78 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 57 of U.S. Patent No. 6,783,648. Although the conflicting claims are not identical, they are not patentably distinct from each other because claim 57, when properly construed to include all the limitations of its base claim, includes all the limitations of instant claims 60 – 78.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Hochstrasser (US 4,950,708) in column 5, lines 37 – 40 and Merril et al. (US 5,429,947) in column 6, lines 63 – 67) each disclose extruding gels from tubes. Macklanburg (US 2,955,728) discloses a flexible member (16) and a plunger rod (18) to extrude material from a tube.

Peyron (2,880,913), Young (US 3,033,426), Langhjem et al. (US 3,521,795) and Brown (US 5,377,874) each disclose spherical or ball plunger member with a plunger rod to extrude material from a tube.

Nichols (US 4,330253) discloses the benefit of using silicone rubber for the plunger member due to its ability to enhance gliding motion of the member when used with a plunger rod.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Surekha Vathyam whose telephone number is 571-272-2682. The examiner can normally be reached on 7:30 AM to 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam X. Nguyen can be reached on 571-272-1342. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/SV/
19 October 2007


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